

[illegible]

```
CCCCCCCC LL      111111 5555555555 DDDDDDDD EEEEEEEEE EEEEEEEEE FFFFFFFF
CCCCCCCC LL      111111 5555555555 DDDDDDDD EEEEEEEEE FFFFFFFF
CC        LL      11      55      DD      DD      EE      FF
CC        LL      11      55      DD      DD      EE      FF
CC        LL      11      55      DD      DD      EE      FF
CC        LL      11      55      DD      DD      EE      FF
CC        LL      11      55      DD      DD      EE      FF
CC        LL      11      55      DD      DD      EE      FF
CC        LL      11      55      DD      DD      EE      FF
CC        LL      11      55      DD      DD      EE      FF
CCCCCCCC LLLLLLLLLL 111111 55      55      DDDDDDDD EEEEEEEEE FF
CCCCCCCC LLLLLLLLLL 111111 555555 555555 DDDDDDDD EEEEEEEEE FF
                                     ....
                                     ....
                                     ....
                                     ....
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RRRRRRRR 333333 222222
RRRRRRRR 333333 222222
RR        RR 33   33 22   22
RR        RR 33   33 22   22
RR        RR 33   33 22   22
RRRRRRRR 33   33 22   22
RRRRRRRR 33   33 22   22
RR  RR    33   33 22   22
RR  RR    33   33 22   22
RR  RR    33   33 22   22
RR  RR    33   33 22   22
RRRRRRRR 333333 2222222222
RRRRRRRR 333333 2222222222
```

Command language interpreter command table structures
These definitions are now obsolete (see below)

IDENT V04-000

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FACILITY: DCL & MCR Command language interpreters

ABSTRACT:

These are the command table structure definitions
which describe the generic command table format used
by the DCL and MCR command interpreters.

ENVIRONMENT:

VAX/VMS operating system. supervisor mode.

AUTHOR: Tim Halvorsen, Feb 1980

Modified by:

V04-000 PCA0000 Paul C. Anagnostopoulos 8-Mar-1983
These definitions are now obsolete. However, they are still
needed to upgrade format level 5 CLI tables to the latest
format level. They are used only by the UPGRADE module of
the CDU facility.

V03-003 PCG0005 Peter George 22-Nov-1982

! Add INT_W PMPTLEN and INT_L_PMPTADDR and remove
! INT_L_PROMPT.

V03-002 PCG0004 Peter George 18-Oct-1982
! Add VEC_C_PROMPTMAX, INT_L_PROMPT, and ENT_V_SPELL.

V03-001 PCG0003 Peter George 15-Jul-1982
! Add INT data structure for CLI\$INTERFACE routines.
! --

.....
Note that the term "SRO" stands for self-relative offset.
The actual address is computed by adding the signed contents
of the field to the address of the structure.

.....
If the offset is zero, then there is no associated data.
.....

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!
! DEFINE VECTOR AT FRONT OF COMMAND TABLES DESCRIBING
! OFFSETS INTO THE SECTION FOR VARIOUS TABLES.
!

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!...$VECSDEF
MACRO      VEC5_L_IMAGE_TBL = 0,0,32,0%;      ! OFFSET TO IMAGE TABLE
MACRO      VEC5_L_PROMPT_TBL = 4,0,32,0%;      ! OFFSET TO PROMPT TABLE
MACRO      VEC5_L_QUAL_TBL = 8,0,32,0%;        ! OFFSET TO QUALIFIER TABLE
MACRO      VEC5_L_VERB_TBL = 12,0,32,0%;        ! OFFSET TO BUILT-IN VERB TABLE
MACRO      VEC5_L_VERBEND = 16,0,32,0%;         ! OFFSET TO END OF VERB_TBL
MACRO      VEC5_L_USR_CMD = 20,0,32,0%;         ! OFFSET TO USER VERB TABLE
MACRO      VEC5_L_USR_END = 24,0,32,0%;         ! OFFSET TO END OF USER VERB TABLE
MACRO      VEC5_L_CMD_PTR = 28,0,32,0%;         ! OFFSET TO BUILT-IN POINTER TABLE
MACRO      VEC5_L_USR_PTR = 32,0,32,0%;         ! OFFSET TO USER POINTER TABLE
MACRO      VEC5_L_FREE = 36,0,32,0%;            ! OFFSET TO NEXT FREE BYTE
MACRO      VEC5_B_STRLVL = 40,0,8,0%;           ! TABLE STRUCTURE LEVEL
LITERAL
$EQUATE (VEC5_C_GBL,0,1
      (STRLVL,5)
      ! CURRENT STRUCTURE LEVEL
      );
MACRO      VEC5_B_PROMPTMAX = 41,0,8,0%;        ! MAXIMUM SIZE OF ANY PROMPT STRING
LITERAL   VEC5_C_LENGTH3 = 42;
LITERAL   VEC5_K_LENGTH3 = 42;                 ! LENGTH OF STR LEVEL 3 AND BEFORE VEC
MACRO      VEC5_B_CLT = 42,0,8,0%;              ! CLT TYPE
LITERAL
$EQUATE (VEC5_C_GBL,0,1
      (DCL,0)
      (MCR,1)
      ! TABLES ARE FOR DCL
      ! TABLES ARE FOR MCR
      );
MACRO      VEC5_W_SIZE = 44,0,16,0%;            ! SIZE IN BYTES OF VECTOR AREA
LITERAL   VEC5_C_LENGTH = 60;
LITERAL   VEC5_K_LENGTH = 60;                 ! LENGTH OF VECTOR AREA
LITERAL   VEC5_C_PROMPTMAX = 32;               ! MAXIMUM SIZE OF ANY PROMPT STRING

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!
!
! DEFINE COMMAND DESCRIPTOR BLOCK
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!...$CMD5DEF
MACRO      CMD5_B_SIZE      = 0,0,8,0%;      ! SIZE OF COMMAND DESCRIPTOR BLOCK
MACRO      CMD5_B_VERBTYP   = 1,0,8,0%;      ! VERB GENERIC TYPE
MACRO      CMD5_B_PARMCNT   = 2,0,8,0%;      ! MIN/MAX PARAMETER COUNTS

MACRO      CMD5_V_MINPARM   = 2,0,4,0%;      ! MINIMUM NUMBER OF PARAMETERS REQUIRED
MACRO      CMD5_V_MAXPARM   = 2,4,4,0%;      ! MAXIMUM NUMBER OF PARAMETERS ALLOWED

MACRO      CMD5_B_FLAGS     = 3,0,8,0%;      ! COMMAND FLAGS

MACRO      CMD5_V_ABREV     = 3,0,1,0%;      ! COMMAND MAY BE ABBREVIATED NON-UNIQUELY
LITERAL    CMD5_M_ABREV     = 1^1 - 1^0;      ! TO A SINGLE CHARACTER

MACRO      CMD5_V_NOSTAT    = 3,1,1,0%;      ! COMMAND DOES NOT RETURN VALID STATUS
LITERAL    CMD5_M_NOSTAT    = 1^2 - 1^1;

MACRO      CMD5_V_FOREIGN   = 3,2,1,0%;      ! FOREIGN COMMAND - NO PARSING IS DONE
LITERAL    CMD5_M_FOREIGN   = 1^3 - 1^2;

MACRO      CMD5_V_IMMED     = 3,3,1,0%;      ! COMMAND IS IMMEDIATELY DISPATCHED W/O PARSING
LITERAL    CMD5_M_IMMED     = 1^4 - 1^3;

MACRO      CMD5_V_MCRPARSE  = 3,4,1,0%;      ! COMMAND IS MCR STYLE COMMAND (OUT=IN)
LITERAL    CMD5_M_MCRPARSE  = 1^5 - 1^4;      ! (THIS FLAG ONLY EXAMINED BY MCR CLI)

MACRO      CMD5_W_IMAGE     = 4,0,16,1%;     ! SRO TO ASCII IMAGE NAME
MACRO      CMD5_W_QUALS     = 6,0,16,1%;     ! SRO TO FIRST NONPOSITIONAL ENTITY
MACRO      CMD5_W_PARMS     = 8,0,16,1%;     ! SRO TO FIRST POSITIONAL ENTITY
MACRO      CMD5_W_OUTPUTS   = 10,0,16,1%;    ! SRO TO LIST OF "OUTPUT" ENTITIES
MACRO      CMD5_W_MutexSET  = 12,0,16,1%;    ! SRO TO MUTUAL EXCLUSION SET
MACRO      CMD5_W_IMPSET    = 14,0,16,1%;    ! SRO TO IMPLICATION SET
LITERAL    CMD5_C_LENGTH   = 16;
LITERAL    CMD5_K_LENGTH   = 16;              ! LENGTH OF FIXED PORTION

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! OUTPUT LIST FORMAT:
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! FIRST BYTE CONTAINS COUNT OF ENTRIES IN LIST EACH ENTRY IS ONE BYTE,
! SIGNED, DESCRIBING THAT "OUTPUT NUMBER". NEGATIVE VALUES INDICATE THE
! OUTPUT IS A PARAMETER AND THE ABS(VALUE) IS THE PARAMETER NUMBER.
! POSITIVE VALUES INDICATE THE OUTPUT IS A QUALIFIER AND THE VALUE IS A
! QUALIFIER NUMBER.
!

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! QUAL IS (0:MAXQUALS-1), PARM IS (MAXQUALS:255)
!

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LITERAL    CMD5_C_MAXPARMS = 8;              ! MAXIMUM POSSIBLE PARAMETERS
LITERAL    CMD5_C_MAXQUALS = 248;            ! MAXIMUM POSSIBLE QUALIFIERS (256-8)

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!...$ENT5DEF
MACRO          ENT5_B_NEXT      = 0,0,8,0%;          ! OFFSET TO NEXT BLOCK IN CHAIN
MACRO          ENT5_B_SIZE      = 1,0,8,0%;          ! SIZE OF THIS BLOCK IN BYTES
MACRO          ENT5_B_TYPE      = 2,0,8,0%;
LITERAL
$EQU          (ENT5_C_GBL,0,1
, (PARAMETER,)          ! POSITIONAL VALUE DELIMITED BY SPACE
, (QUALIFIER,)          ! NONPOSITIONAL KEYWORD DELIMITED BY SLASH
);
MACRO          ENT5_B_VALTYPE    = 3,0,8,0%;          ! TYPE OF VALUE
LITERAL
$EQU          (ENT5_C_GBL,1,1          ! (STARTING AT #1)
, (INFILE,)             ! INPUT FILE SPECIFICATION
, (OUTFILE,)            ! OUTPUT FILE SPECIFICATION
, (NUMBER,)             ! DECIMAL INTEGER NUMBER
, (PRIVILEGE,)          ! PRIVILEGE KEYWORD
, (DATETIME,)           ! DATE/TIME SPECIFICATION
, (PROTECTION,)         ! PROTECTION SPECIFICATION
, (PROCESS,)            ! PROCESS NAME
, (INLOG,)              ! INPUT LOGICAL NAME
, (OUTLOG,)             ! OUTPUT LOGICAL NAME
, (INSYM,)              ! INPUT SYMBOL NAME
, (OUTSYM,)             ! OUTPUT SYMBOL NAME
, (NODE,)               ! NODE NAME
, (DEVICE,)             ! NODE/DEVICE NAME
, (DIR,)                ! NODE/DEVICE/DIRECTORY NAME
, (UIC,)                ! UIC SPECIFICATION
, (RESTOFLINE,)         ! GOBBLE REST OF COMMAND STRING AS VALUE
);
MACRO          ENT5_W_NAME       = 4,0,16,1%;        ! SRO TO ASCIC ENTITY NAME (USER SPELLING)
MACRO          ENT5_W_NUMBER     = 4,0,16,0%;        ! OR, PARAMETER NUMBER (POSITIONAL)
MACRO          ENT5_W_LABEL      = 6,0,16,1%;        ! SRO TO ASCIC ENTITY LABEL (FOR PGM USE)
MACRO          ENT5_W_DEFVAL     = 8,0,16,1%;        ! SRO TO ASCIC DEFAULT VALUE
MACRO          ENT5_W_SYNTAX     = 10,0,16,1%;       ! SRO TO SYNTAX LIST
MACRO          ENT5_W_KEYWORDS   = 12,0,16,1%;       ! SRO TO VALUE KEYWORD LIST
! IF ZERO, ALL VALUES ARE LEGAL
MACRO          ENT5_W_PROMPT     = 14,0,16,1%;       ! SRO TO VALUE PROMPT
MACRO          ENT5_L_FLAGS      = 16,0,32,0%;       ! ENTITY FLAGS
MACRO          ENT5_V_FILE       = 16,0,1,0%;        ! VALUE IS FILE SPECIFICATION
LITERAL      ENT5_M_FILE       = 1^1 - 1^0;
MACRO          ENT5_V_VAL        = 16,1,1,0%;        ! CAN HAVE A VALUE
LITERAL      ENT5_M_VAL        = 1^2 - 1^1;
MACRO          ENT5_V_NEG        = 16,2,1,0%;        ! VALUE CAN BE NEGATED
LITERAL      ENT5_M_NEG        = 1^3 - 1^2;
MACRO          ENT5_V_DEFTTRUE   = 16,3,1,0%;        ! TRUE BY DEFAULT
LITERAL      ENT5_M_DEFTTRUE   = 1^4 - 1^3;
MACRO          ENT5_V_BATDEF     = 16,4,1,0%;        ! PRESENT BY DEFAULT IF BATCH JOB
LITERAL      ENT5_M_BATDEF     = 1^5 - 1^4;

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MACRO	ENTS_V_VALREQ	= 16,5,1,0%:	! VALUE IS REQUIRED
LITERAL	ENTS_M_VALREQ	= 1^6 - 1^5:	
MACRO	ENTS_V_LIST	= 16,6,1,0%:	! COMMA-SEPARATED LIST OF VALUES ALLOWED
LITERAL	ENTS_M_LIST	= 1^7 - 1^6:	
MACRO	ENTS_V_CONCAT	= 16,7,1,0%:	! CONCATENATED VALUES ALLOWED
LITERAL	ENTS_M_CONCAT	= 1^8 - 1^7:	
MACRO	ENTS_V_IMPCAT	= 16,8,1,0%:	! VALUES ARE IMPLICITLY CONCATENATED
LITERAL	ENTS_M_IMPCAT	= 1^9 - 1^8:	
MACRO	ENTS_V_VERB	= 16,9,1,0%:	! QUALIFIER CAN APPEAR ON COMMAND VERB
LITERAL	ENTS_M_VERB	= 1^10 - 1^9:	
MACRO	ENTS_V_PARM	= 16,10,1,0%:	! QUALIFIER CAN APPEAR ON PARAMETER
LITERAL	ENTS_M_PARM	= 1^11 - 1^10:	
MACRO	ENTS_V_MCROPTDLM	= 16,11,1,0%:	! VALUE DELIMITER IS OPTIONAL (MCR)
LITERAL	ENTS_M_MCROPTDLM	= 1^12 - 1^11:	
MACRO	ENTS_V_MCRIGNORE	= 16,12,1,0%:	! IGNORE THIS ENTITY BLOCK (MCR)
LITERAL	ENTS_M_MCRIGNORE	= 1^13 - 1^12:	
MACRO	ENTS_V_SPELL	= 16,13,1,0%:	! ONLY CHECK FIRST FOUR CHARS OF KEYWORD VALUES
LITERAL	ENTS_M_SPELL	= 1^14 - 1^13:	
LITERAL	ENTS_C_LENGTH	= 20:	
LITERAL	ENTS_K_LENGTH	= 20:	! LENGTH OF FIXED LENGTH PORTION

DEFINE CHANGE LIST STRUCTURE

```

!...$CHG5DEF
MACRO          CHG5_B_SIZE      = 0,0,8,0%;          ! SIZE OF CHANGE LIST BLOCK
MACRO          CHG5_B_FLAGS    = 1,0,8,0%;          ! FLAGS

MACRO          CHG5_V_IMAGE     = 1,0,1,0%;          ! IMAGE CHANGE
LITERAL        CHG5_M_IMAGE     = 1^1 - 1^0;
MACRO          CHG5_V_PARMS     = 1,1,1,0%;          ! PARAMETER(S) CHANGE
LITERAL        CHG5_M_PARMS     = 1^2 - 1^1;
MACRO          CHG5_V_QUALS     = 1,2,1,0%;          ! QUALIFIER(S) CHANGE
LITERAL        CHG5_M_QUALS     = 1^3 - 1^2;
MACRO          CHG5_V_MCRIGNORE = 1,3,1,0%;          ! IGNORE IF CLI IS MCR
LITERAL        CHG5_M_MCRIGNORE = 1^4 - 1^3;

MACRO          CHG5_W_IMAGE     = 2,0,16,1%;         ! SRO TO NEW IMAGE
MACRO          CHG5_B_PARMCNT   = 4,0,8,0%;          ! MIN/MAX PARAMETER COUNTS

MACRO          CHG5_V_MINPARM   = 4,0,4,0%;          ! MINIMUM NUMBER OF PARAMETERS REQUIRED
MACRO          CHG5_V_MAXPARM   = 4,4,4,0%;          ! MAXIMUM NUMBER OF PARAMETERS ALLOWED

MACRO          CHG5_W_PARMS     = 5,0,16,1%;         ! SRO TO FIRST PARAMETER DESCRIPTOR
MACRO          CHG5_W_QUALS     = 7,0,16,1%;         ! SRO TO FIRST QUALIFIER DESCRIPTOR
LITERAL        CHG5_C_LENGTH    = 9;
LITERAL        CHG5_K_LENGTH    = 9;

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